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IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF ARIZONA (TUSCON)

UNITED STATES ex rel. MASOUD
SAMANDI,
Plaintiff,
v.
MATERIALS AND ELECTROCHEMICAL
RESEARCH CORPORATION; JAMES C.
WITHERS; RAOUF O. LOUTFY; WITOLD
KOWBEL; ROGER STORM; HELGA
WITHERS; and ELIA LOUTFY,
Defendants.

COMPLAINT

CIV-05-124-TUC-DCB

FIRST AMENDED COMPLAINT AND DEMAND FOR JURY TRIAL

38 1. This is a civil action by Masoud Samandi, Ph.D. (“Relator” or “Samandi”)
39 on his own behalf and on behalf of the United States against defendants Materials and
40 Electrochemical Research Corporation (“MER”) and James C. Withers, Ph.D.

1 (“Withers”) half owner and CEO, Raouf O. Loutfy, Ph.D. (“Loutfy”), half owner and
2 president, Witold Kowbel, Ph.D. (“Kowbel”), vice president, R. Storm, Ph.D. (“Storm”),
3 vice president, Helga Withers, wife of Withers, and Elia Withers, wife of Loutfy, under
4 the *qui tam* provisions of the Civil False Claims Act, 31 U.S.C. § 3729 *et seq.*, for treble
5 damages, civil penalties, and other relief arising from fraud and false claims act violations
6 committed by MER, Withers, Loutfy, Kowbel and Storm (collectively, “Defendants”)
7 against the United States.

8 **I. NATURE OF THE ACTION**

9 2. In connection with the application and receipt of federal grants under the
10 Small Business Innovation Research Program (“SBIR Program” or “Program”), 15
11 U.S.C. § 638, primarily (though not exclusively), as administered by the United States
12 Department of Energy (“DOE”), Department of Defense (“DOD”) and National
13 Aeronautics and Space Administration (“NASA”), Defendants (a) knowingly presented,
14 and caused to be presented, to an officer and employee of the United States Government
15 false and fraudulent claims for payment and approval; and (b) knowingly made, used, and
16 caused to be made and used, false records and statements to get false and fraudulent
17 claims paid and approved by the Government; all in violation of Title 31, United States
18 Code, §§ 3729(a)(1) and (2).

19 3. More specifically, this action arises from Defendants’ efforts to obtain
20 SBIR funding by submitting false or fraudulent claims or statements by: (a) submitting
21 fraudulent SBIR proposals; (b) submitting fraudulent SBIR reports; (c) submitting

1 duplicative SBIR results; and (d) misrepresenting MER’s commercialization
2 achievements and capabilities in SBIR submissions.

3 **II. JURISDICTION**

4 4. This Court has subject matter jurisdiction over the claims alleged in this
5 Complaint under 28 U.S.C. § 1331 (Federal question) and § 1345 (United States as
6 plaintiff), and 31 U.S.C. § 3732(a) (False Claims Act).

7 5. This Court has personal jurisdiction over Defendants pursuant to 31 U.S.C.
8 § 3732(a), because one or more defendants can be found, reside, and transact business in
9 the District of Arizona and because an act proscribed by 31 U.S.C. § 3729 occurred
10 within this District. Section 3732(a) further provides for nationwide service of process.

11 6. Upon information and belief, there are no pending actions that would be
12 deemed to be related to this action, and further, this Complaint is not based on the facts
13 underlying any such pending action, within the meaning of the False Claims Act’s “first
14 to file” rule, 31 U.S.C. § 3730(b)(5).

15 7. This action is not precluded by any provisions of the False Claims Act’s
16 jurisdiction bar, 31 U.S.C. § 3730(e) *et seq.* This action is not brought by a current or
17 former member of the armed services against another member of the armed services
18 arising out of such person’s service in the armed forces. 31 U.S.C. § 3730(e)(1). Nor is it
19 brought against a member of Congress, the judiciary or a senior executive branch official
20 and based upon evidence or information already known to the Government. 31 U.S.C. §
21 3730(e)(2).

1 8. Upon information and belief, this Complaint is not based upon allegations
2 or transactions that are the subject of a civil suit or an administrative civil money penalty
3 proceeding in which the United States is already a party. 31 U.S.C. § 3730(e)(3).

4 9. Upon further information and belief, there has been no “public disclosure”
5 of the matters alleged herein and this action is not “based upon” any such disclosure,
6 within the meaning of 31 U.S.C. §3730(e)(4)(A). Notwithstanding the foregoing, through
7 his employment with defendant MER and his interactions with the individually named
8 defendants and other persons, Samandi has “direct and independent knowledge” of the
9 instant allegations. Additionally, Samandi has “voluntarily provided,” and offered to
10 provide, this information to the Government prior to the filing of this complaint.
11 Therefore, to the extent any of these allegations is deemed to have been based upon a
12 public disclosure, Samandi is an “original source” of this information within the meaning
13 of the False Claims Act and is expressly excepted from its public disclosure bar.

14 **III. VENUE**

15 10. Venue is proper in the District of Arizona under 28 U.S.C. §§ 1391(b) and
16 (c), and 31 U.S.C. § 3732(a) because one or more defendants can be found, reside, and
17 transact business in the District of Arizona; an act proscribed by 31 U.S.C. § 3729
18 occurred within this District; and a substantial part of the events or omissions giving rise
19 to the claim occurred in this District.

20
21
22 **IV. PARTIES AND ENTITIES**

1 11. The United States is the real party in interest plaintiff in the first through
2 sixth causes of action in this Complaint. It provides the funding for, and, through various
3 executive agencies, regulates and administers, the SBIR Program, which is described in
4 greater detail below.

5 12. Defendant MER is, on information and belief, a privately held Arizona
6 corporation formed in or about 1985. It engages in high technology materials and
7 electrochemical research and development with an emphasis on advanced composites,
8 powders, coatings and fullerenes as well as energy conversion systems that include
9 batteries, fuel cells, and gas storage. MER's offices and research facilities are located at
10 7960 South Kolb Road, Tucson, Arizona 85706. Its telephone number is (520) 574-1980.
11 MER has approximately 70 employees, including some 25 Ph.D. staff members.

12 13. By its own promotional statements on its web site, see
13 <http://www.opus1.com/~mercorp/>, MER was started in 1985 with SBIR contracts as its
14 primary business, and continues to emphasize SBIR contract activities in describing its
15 core business activities. On information and belief, since its inception MER has been
16 awarded over 100 Phase I and close to 100 Phase II SBIR research and development
17 grants, for a total of over \$50 million. The major sources of its SBIR funding include the
18 United States Department of Energy (DOE), the United States Department of Defense
19 (DOD), and National Aeronautics and Space Administration (NASA).

20 14. Defendants Withers (CEO, co-owner), Loutfy (President, co-owner),
21 Kowbel (Vice President) and Storm (Vice President) are, and at all relevant times were,

1 senior managers and/or principals of MER. Upon information and belief, the
2 individually-named Defendants are all residents of Tucson, Arizona.

3 a. Defendant Helga Withers, was, at all relevant times, the wife of
4 Withers, all of whose actions were on behalf of his marital
5 community.

6 b. Defendant Elia Loutfy, was, at all relevant times, the wife of Loutfy,
7 all of whose actions were on behalf of his marital community.

8 15. Relator Samandi is a former resident of the State of Arizona. He was
9 employed by MER as a Senior Engineer from in or about April 2001 to in or about May
10 2004. Before going to work for MER, Samandi was Senior Lecturer in Engineering at the
11 University of Wollongong, New South Wales, Australia.

12 **V. FALSE CLAIMS ACT**

13 16. The False Claims Act provides, in pertinent part, that:

14 (a) Any person who . . .(1) knowingly presents, or causes to be presented, to an
15 officer or employee of the United States Government a false or fraudulent
16 claim for payment or approval; (2) knowingly makes, uses, or causes to be
17 made or used, a false record or statement to get a false or fraudulent claim paid
18 or approved by the Government; [or] (3) conspires to defraud the Government
19 by getting a false or fraudulent claim allowed or paid; . . .

20 ***

21
22 is liable to the United States Government for a civil penalty of not less than
23 \$5,000 and not more than \$10,000,¹ plus 3 times the amount of damages which
24 the Government sustains because of the act of that person . . .

25
26
1 Between \$5,500 and \$11,000 per violation on or after September 29, 1999.

(b) For purposes of this section, the terms “knowing” and “knowingly” mean that a person, with respect to information . . . (1) has actual knowledge of the information; (2) acts in deliberate ignorance of the truth or falsity of the information; or (3) acts in reckless disregard of the truth or falsity of the information, and no proof of specific intent to defraud is required.

31 U.S.C. § 3729.

VI. THE SBIR PROGRAM

(a) SBIR Program Generally

9 17. The SBIR Program was created by the Small Business Innovation
10 Development Act of 1982 to support small businesses and promote free competition,
11 which Congress recognized as “basic not only to the economic well-being but to the
12 security of this Nation,” 15 U.S.C. § 638(a), and reauthorized until September 30, 2000,
13 by the Small Business Research and Development Enhancement Act (P.L. 102-564), and
14 reauthorized again until September 30, 2008, by the Small Business Reauthorization Act
15 of 2000 (P.L. 106-554).

16 18. The goal of the Program is to provide the Government with new and cost
17 effective solutions to complex scientific and technical problems, while also encouraging
18 small businesses to market such technology in the private sector, thereby helping to
19 stimulate the U.S. economy. Reauthorizing legislation, which extended the program
20 through September 30, 2008, found that the SBIR program was “highly successful in
21 involving small businesses in federally funded research and development.” P.L. 106-554,
22 §1(a)(9) (Dec. 21, 2000).

23 19. The SBIR statute, 15 U.S.C. § 638, establishes a system for channeling
24 federal monies to for-profit small businesses engaged in scientific and/or engineering

1 research or research and development. The goal is for these small businesses to take seed
2 money from the Government and develop useful technology that ultimately can be sold
3 by the small businesses in the market place for a significant profit.

4 20. Under the SBIR program, federal agencies with extramural research and
5 development (“R&D”) budgets over \$100 million are required to administer SBIR
6 programs using an annual set-aside of 2.5%. 15 U.S.C. § 638(f). Currently, the SBIR
7 program solicitations are issued by eleven Federal agencies, namely, the Department of
8 Agriculture, the Department of Commerce, the Department of Defense, the Department of
9 Education, the Department of Energy, the Department of Health and Human Services, the
10 Department of Homeland Security, the Department of Transportation, the Environmental
11 Protection Agency, the National Aeronautics and Space Administration, and the National
12 Science Foundation. Over \$10 billion has been awarded by the SBIR program to various
13 small businesses.

14 21. The SBIR statute provides that each agency is to distribute SBIR funds to
15 small business concerns by unilaterally (1) determining suitable projects and research
16 topics within its SBIR program, (2) issuing small business innovation research
17 solicitations, (3) receiving and evaluating proposals, and (4) awarding grants to qualified
18 participants. 15 U.S.C. § 638(g). The actual payment of monies to an awardee is
19 accomplished via a “funding agreement” between the awarding agency and the small
20 business. 15 U.S.C. §§ 638(e)(3) and (g)(4)-(7). Among other things, the funding
21 agreement sets out a schedule for the distribution of funding, which is tied to certain the
22 achievement of certain performance milestones. 15 U.S.C. § 638(g)(7).

1 22. The SBIR Program comprises three distinct contract phases. Phase I
2 contracts determine the feasibility of new technology and are currently awarded in
3 amounts up to \$100,000. They are awarded for research lasting nine months or less.
4 Phase II contracts are awarded only to successful Phase I participants and are based on
5 Phase I results. Phase II contracts are not only for continuing research on scientific and
6 technical issues, but are also for determining the potential commercial applications of new
7 technology and products (“commercialization”). Phase II contracts typically are for terms
8 of approximately two years and are currently awarded in amounts up to \$750,000. Phase
9 III involves private sector or non-SBIR federal agency funding to patent, market, license,
10 manufacture, or in other ways, commercialize Phase II projects.

11 23. SBIR contracts are competitively awarded based on not only scientific and
12 technical merit but also potential commercialization. Panels of scientists and engineers
13 evaluate proposals. Among other things, in recommending the awarding of contracts
14 these evaluators consider the relevant qualifications of the principal investigator (“PI”)
15 and key personnel, including, but not limited to their formal academic credentials and
16 employment history, the soundness and technical merit of the proposed approach, the
17 potential commercial applications of the project and the likelihood that the proposed
18 research will fulfill the requirements of the topic or problem the awarding agency sought
19 to be addressed.

20 24. Each awarding agency promulgates its own set of SBIR regulations and
21 instructions and distributes its own forms. Most, if not all, of these rules and documents
22 are available on the awarding agency’s web site.

(b) Agency Funding, Structure and Management for the SBIR Program

2 25. Funding for DOE's SBIR program totaled over \$1 billion over twenty-one
3 years. The program's budget for FY 2004 is expected to be about \$95 million, based on a
4 set-aside of 2.5%. These funds are used to support Phase I and Phase II awards. DOE
5 funds approximately 220 Phase I projects and about 100 Phase II projects per year.
6 Success ratios for applicants have been about 20% in Phase I and 45% in Phase II.

7 26. DOE's annual solicitation contains topics in technical areas such as: Basic
8 Energy Sciences, Biological and Environmental Research, High Energy and Nuclear
9 Physics, Fusion Energy Sciences, Advanced Scientific and Computational Research,
10 Energy Efficiency and Renewable Energy, Nuclear Energy, Fossil Energy, Environmental
11 Management, and Nonproliferation and National Security. Each year about 45 topics are
12 allocated among the technical areas in proportion to their contributions to the budget.
13 DOE plans to select for award those grant applications of the highest overall merit within
14 their technical subject area.

15 27. The Office of Science manages the SBIR program for the Department of
16 Energy. Its mailing address is: SBIR/STTR Program, SC-32/Germantown Building, U.S.
17 Department of Energy, 1000 Independence Ave., SW, Washington, D.C. 20585-1290.
18 Its physical location is: SBIR/STTR Program, SC-32, U.S. Department of Energy, 19901
19 Germantown Rd., Germantown, MD 20874-1290. Its telephone number is (301)
20 903-1414. Information for the DOE SBIR program can also be found on its web site:
21 <http://sbir.er.doe.gov/sbir/>.

1 28. The Office of Science is the single largest supporter of basic research in the
2 physical sciences in the United States, providing more than 40 percent of total funding for
3 this vital area of national importance. It oversees – and is the principal federal funding
4 agency of – the Nation’s research programs in high-energy physics, nuclear physics, and
5 fusion energy sciences.

6 29. The Office of Science manages fundamental research programs in basic
7 energy sciences, biological and environmental sciences, and computational science. In
8 addition, the Office of Science is the Federal Government’s largest single funder of
9 materials and chemical sciences, and it supports unique and vital parts of U.S. research in
10 climate change, geophysics, genomics, life sciences, and science education.

11 30. The Office of Science manages this research portfolio through five
12 interdisciplinary program offices: Advanced Scientific Computing Research, Basic
13 Energy Sciences, Biological and Environmental Research, Fusion Energy Sciences, and
14 High Energy Physics and Nuclear Physics. In addition, the Office of Science sponsors a
15 range of science education initiatives through its Workforce Development for Teachers
16 and Scientists program.

17 31. Upon information and belief, the Basic Energy Sciences (“BES”) program
18 office handled most of MER’s SBIR grants awarded by DOE.

19 32. The BES program supports fundamental research in focused areas of the
20 natural sciences in order to expand the scientific foundations for new and improved
21 energy technologies and for understanding and mitigating the environmental impacts of
22 energy use. BES also discovers knowledge and develops tools to strengthen national

1 security. The BES program plans, constructs, and operates major scientific user facilities
2 to serve researchers from universities, national laboratories, and industrial laboratories.
3 The BES program is one of the Nation's largest sponsors of the natural sciences by
4 funding experiments at more than 160 research institutions through the following three
5 Divisions: Materials Sciences and Engineering Division, Chemical Sciences,
6 Geosciences, and Biosciences Division, and Scientific User Facilities Division.

7 33. Upon information and belief, the Materials Sciences and Engineering
8 Division handled most of MER's SBIR grants awarded by DOE.

9 34. The Division of Materials Sciences and Engineering in BES supports a
10 broad-based research program engaged in fundamental studies of materials sciences and
11 engineering. The research seeks to understand the atomistic basis of materials properties
12 and behavior and how to make materials perform better at acceptable cost through
13 innovative materials design, synthesis, and processing. The program fulfills DOE
14 missions by the development of materials that improve the efficiency, economy,
15 environmental acceptability, and safety in energy generation, conversion, transmission,
16 and utilization. The Division consists of two teams: Condensed Matter Physics and
17 Materials Chemistry and Materials and Engineering Physics.

18 35. Upon information and belief, the Materials and Engineering Physics team
19 handled the MER SBIR grants awarded by DOE.

20 36. The SBIR Program at other federal agencies, including DOD and NASA are
21 similarly financed, structured and managed to the program at DOE.

22 || (c) SBIR Regulations and Policies

1 37. DOE regulations pertaining to agreements with for-profit organizations are
2 found at 10 C.F.R. Part 600, Subpart D, “Administrative Requirements for Grants and
3 Cooperative Agreements With For-Profit Organizations.” They include monitoring and
4 reporting measures, under which periodic program and business progress reports and a
5 final technical report are required. 10 C.F.R. §§ 600.340, -.41; see also DOE Phase II
6 SBIR instructions, § 4.3, “Reports.” Special provisions for SBIR grants include a
7 requirement that recipients must certify in writing at the end of the project that the
8 activity was completed or the level of effort was expended. 10 C.F.R. § 600.381. By
9 statute, the progress reports are the basis for payment by the government. 15 U.S.C.
10 § 638(g)(7).

11 38. Among other things, DOE regulations, policies and application instructions
12 require that the research be done by the listed PI and that the bulk of such research be
13 done at the applicant’s facilities. There is a proscription against doing any SBIR research
14 outside of the United States. See DOE Phase I application cover sheet, PI certification
15 form and Phase II Instructions.

16 39. The DOE application for SBIR grants further contains a certification that
17 the statements in the application are true and that the signatory will comply with the DOE
18 terms and conditions if an award is made. It further provides notice that a willfully false
19 certification is a criminal offense. The signatures of both the Principal Investigator and
20 an authorized Corporate/Business Representative are mandatory. See Department of
21 Energy Solicitations for the Small Business Innovation Research and Small Business

1 Technology Transfer Programs General Information and Guidelines, § 3.3.1(a) and
2 Appendix A.

3 40. Moreover, when a significant amount of the work proposed in an SBIR
4 application to DOE is essentially equivalent to work in another project that has been
5 funded or has been submitted to DOE or another federal agency, or to another DOE
6 program, the applicant is required to disclose that fact. If an award is made, the grantee
7 must certify that neither it nor any of its employees have previously been, nor are
8 currently being paid for essentially equivalent work by an agency of the federal
9 government. Id. § 1.5.1(f).

10 41. DOE's SBIR regulations require that the applicant for SBIR funding
11 identify in both Phase I and Phase II proposals the qualifications of the designated
12 Principal Investigator ("PI") and other Key Personnel in terms of, among other things,
13 education, work experience, and accomplishments relevant to the project. DOE expressly
14 notifies SBIR grant applicants that the designated PI is vital to the success of the
15 proposed research project and that his or her qualifications are "critical" to the evaluation
16 process and among the most important criteria used to determine whether or not to fund a
17 given project.

18 42. DOE's SBIR regulations require that recipients of Phase I and Phase II
19 funding submit to SBIR program personnel both interim and final technical reports.
20 These reports must document, among other things, the research actually carried out under
21 the funded project and the results obtained as a result of that research.

1 43. DOE's SBIR regulations require that the applicants for SBIR funding
2 describe in Phase I and Phase II proposals their "commercialization" history (meaning the
3 ability to transfer research results and technology into products or services that have
4 economic value in Government and private markets) with respect to their previously-
5 funded SBIR projects and to explain how they intend to commercialize the results of the
6 proposed project. DOE expressly notifies SBIR grant applicants that successful
7 commercialization is central to the purpose of the SBIR Program and that the projected
8 ability to commercialize the proposed project's results is among the most important
9 criteria used to determine whether or not to fund a given project.

10 44. The other agencies participating in the SBIR program, including DOD and
11 NASA, have materially identical regulations, policies and forms to those governing
12 DOE's SBIR program.

13

14 **VII. DEFENDANT'S FALSE CLAIMS SCHEMES (a)-(d)**

15 (a) **MER Submitted SBIR Proposals with False PI Qualifications**

16 45. From at least as early as 1999, if not from soon after Defendant Kowbel
17 joined Defendant MER in 1993, to at least the date of this Complaint, Defendant MER
18 submitted Phase I and Phase II SBIR proposals to various federal agencies, including, but
19 not limited to DOE, DOD and NASA, in which it designated Defendant Kowbel as either
20 the PI or a Key Personnel member on the proposed project (the "Kowbel Proposals").

1 46. For each Kowbel Proposal, Defendant MER, through Defendants Withers
2 and/or Loutfy certified the truth and accuracy of Defendant Kowbel's qualifications
3 relevant to the project as set forth in the proposal. Typically, these qualifications were
4 presented in both narrative form in the body of the proposal, as well as, in an
5 accompanying resume (also called a "curriculum vitae" or "CV").

6 47. On those Kowbel Proposals for which he was the designated PI, Defendant
7 Kowbel also certified the truth and accuracy of his qualifications as described in the
8 proposals and accompanying CVs.

9 48. In many instances, for example DOE contract DE-FG03-01ER83279
10 (90822), the narrative part of the Kowbel Proposals characterized Defendant Kowbel as
11 "uniquely qualified to be the P.I. on this proposed program" due, at least in part, to the
12 fact that "[h]e has doctoral level education in both *Chemistry* and Materials Engineering."
13 (Emphasis added.)

14 49. In every Kowbel Proposal, for example NASA contract NAS8-00199
15 (90212), the accompanying CV for Defendant Kowbel indicates that he had obtained a
16 "Ph.D. degree in chemistry" from Technical University of Wroctaw (Poland) in 1981.

17 50. In at least one instance, NASA contract NAS5-02025 (90582), if not more,
18 the narrative section of the Kowbel Proposal states that Defendant Kowbel has a
19 "doctorate in *chemistry* and materials engineering from Southern Illinois University."
20 (Emphasis added.)

21 51. In fact, Defendant Kowbel never received a Ph.D. in Chemistry from any
22 university.

1 52. In many of the Kowbel Proposals, for example NASA contract NAS5-
2 00233 (90262), it states on the accompanying CV that Defendant Kowbel had been an
3 “Associate Professor” at Auburn University for at least some time between August 1987
4 and March 1992.

5 53. In fact, Defendant Kowbel never achieved the status of Associate Professor
6 at Auburn University.

7 54. In many of the Kowbel Proposals, for example Army contract DASG60-02-
8 C-0042 (90242), it states on the accompanying CV that Defendant Kowbel had been
9 employed by “NASA” as a Staff Engineer at its Langley Research Center (“LaRC”)
10 during the years 1992 and 1993.

11 55. In fact, Defendant Kowbel was never employed by NASA.

12 56. In addition to the above-referenced SBIR Kowbel Proposals, some or all of
13 the foregoing types of misrepresentations concerning Defendant Kowbel’s qualifications
14 (but always the false representation that he had received a Ph.D. in Chemistry) were also
15 included in Phase I and/or Phase II Kowbel Proposals for following SBIR contracts:

- 16 a. DOD/Army/Missile Defense contract DASG60-02-C-0042,
17 “SiC-Based High energy laser Optics.”
- 18 b. NASA contract NAS1-00059, “Integrated C-SiC Optical Reflectors.”
- 19 c. DOE contract DE-FG03-99- ER82823, “Hybrid 3-D SiC-C.”
- 20 d. NASA contract NAS5-00233, “Ultralightweight SiC Mirror
21 Structures.”

- e. NASA contract NAS8-00199, “A Novel and New Ultra Lightweight Reinforcement for Producing Low Mass Optical Systems.”
- f. NASA contract NAS8-02038, “Novel Approach to the Fabrication of a C-SiC Blisk.”
- g. NASA contract NAS8-01068, Lightweight Engine Components- Novel Approach to the Fabrication of a SiC Blisk.”
- h. DOD/Air Force contract F-33615-98-C-5057, “Affordable Inhibited Oxidation Protective C-C Composites.”
- i. DOE contract DE-FG03-01ER83279/A002, “SiC-Based Laser Fusion Optics.”
- j. NASA contract NAS1 99040, Integrated C-SiC Optical Reflectors.”
- k. DOD/MDA contract DASG60-01-P-0087, Ultra Lightweight SiC Based Mirrors for High Energy Lasers.”
- l. DOD/MDA contract DASG60-02-P-0169, “Hybrid C-C/Foam Thermal Radiators.”
- m. DOD/Air Force contract F33615-03-M-5030 “Advanced Surface Heat Exchanger Via High Strength Graphite Foam.”
- n. DOD/Air Force contract FA9451-04-M-0157, “Lightweight SiC Composite Optics for High energy Applications.”
- o. DOD/MDA contract W9113M-04-P-0127, “Lightweight SiC-based Optics for LADAR Applications.”

- 1 p. NASA contract NNL05AA78P, "Multifunctional, Boron-Foam
- 2 Based Radiation Shielding."
- 3 q. DOD/Army contract W9113M-06-C-0005, "FMG
- 4 Cryolite/Composite Structure for Improved Hazardous Chemical
- 5 Handling."
- 6 r. DOD/Air Force contract FA8650-07-C-5212, "Low Cost Net Shape
- 7 Forming of Ceramic Matrix Composites Utilizing Precermic
- 8 Polymer Processing." And,
- 9 s. DOD/Army contract W911W6-08-C-0065, "A Process to In-Situ
- 10 Form Cooling Channels in SiC/SiC Composite Turbine Blades and
- 11 Nozzles."

12 57. Upon information and belief, at the time the Kowbel Proposals were
13 submitted to the Government, Defendants MER, Kowbel, Withers and Loutfy knew the
14 importance of a PI's qualifications to the SBIR Program's criteria for evaluating and
15 awarding SBIR grants.

16 58. Upon information and belief, Defendants MER, Kowbel, Withers and
17 Loutfy included characterizations of Defendant Kowbel as “uniquely qualified” in the
18 narrative sections of the proposals, as well as his representations of his purported Ph.D.
19 degree in Chemistry, Associate Professorship at Auburn University and employment as a
20 staff engineer at NASA in the accompanying CV, in order to favorably influence SBIR
21 Program evaluators to award grants to MER.

1 59. Upon further information and belief, Defendants MER, Withers and Loutfy
2 knew, or upon diligent investigation would have known, of the false representations of
3 Defendant Kowbel's qualifications that were contained in the Kowbel Proposals, as
4 alleged above.

5 60. Upon information and belief, SBIR Program personnel received and
6 reviewed the Kowbel Proposals as part of the grant evaluation and award process.

7 61. Upon further information and belief such SBIR Program personnel read the
8 parts of the Kowbel Proposals describing his academic credentials, employment history
9 and other qualifications, including those concerning his purported Ph.D. degree in
10 Chemistry, Associate Professorship at Auburn University and employment as a staff
11 engineer at NASA.

12 62. Upon further information and belief, when Defendant MER was awarded
13 grants on successfully funded Kowbel Proposals, the SBIR Program personnel who
14 performed the evaluations and awarded the grants were favorably influenced by, among
15 other criteria, Defendant Kowbel's stated qualifications, particularly his false claim of a
16 Ph.D. in Chemistry with respect to projects that involved research in the field of
17 Chemistry.

18 63. Upon further information and belief, if such SBIR personnel had known of
19 Defendant Kowbel's true qualifications they would not have awarded SBIR grants on the
20 Kowbel Proposals that were successfully funded. Additionally, upon information and
21 belief, if they had simply known of the fact that Defendant Kowbel's qualifications were

1 misrepresented as alleged herein they would not have funded any of the Kowbel
2 Proposals.

3 64. The Government has been economically harmed as a result of the
4 foregoing.

5 65. Defendants MER and Withers, and upon information and belief, Defendant
6 Loutfy, were specifically made aware of the falsehoods in the Kowbel Proposals in
7 February 2009, if not earlier, and, upon information and belief, they have not refunded
8 monies awarded to MER on those proposals, but rather, have continued to wrongfully
9 retain such funds.

10 (b) **MER Submitted Technical Reports with Plagiarized Results**

11 66. As described in detail below, in connection with at least two DOE SBIR
12 contracts, Defendants MER, Withers and Loutfy submitted interim and final technical
13 reports containing research results that were plagiarized from the published theses of two
14 of Samandi's former students at the University of Wollongong (Australia).
15 Additionally, on each of these reports, Defendants MER, Withers and/or Loutfy falsely
16 certified that such results were obtained through research conducted at MER under the
17 respective SBIR contracts.

18 67. The Samandi student research results were incorporated into certain MER
19 interim technical reports by Samandi. This was at the express direction of Defendants
20 Withers and Raouf Loutfy under the threat that he would be fired if he did not do so.

21 68. Prior to their submission to the DOE SBIR Program, Defendant Withers
22 reviewed, edited and authorized the submission of the interim technical reports at issue in

1 this claim. He also was the designated or *de facto* PI on both of the DOE contracts. As a
2 result of the foregoing, as well as his directives to Samandi, Defendant Withers knew, or
3 should have known, at the time of their submission to DOE that the interim technical
4 reports contained plagiarized research results.

5 69. Upon information and belief, Defendant Withers prepared, reviewed and
6 submitted (or authorized the submission of) a final technical report in connection with
7 one of the two SBIR DOE contracts at issue and for which contract he was the PI. This
8 occurred more than 18 months after Samandi left Defendant MER. As a result,
9 Defendant Withers knew, or should have known, at the time that it was submitted to DOE
10 that this final technical report contained plagiarized research results.

11 **DOE SBIR Phase II project, “The Application of Plasma**
12 **Assist Chemical Vapor Deposition (PACVD) Coatings**
13 **For Die Casting Dies” Contract # DE-FG03-98ER82614**

14 70. The fifth, sixth, and seventh technical progress reports and the final
15 technical report submitted to DOE for SBIR contract DE-FG03-98ER82614 are
16 fraudulent, based on fictitious results and a large amount of plagiarized data which were
17 obtained outside MER by others well before the start of this project.

18 71. As an example of this fraudulent reporting, the sixth interim technical report
19 submitted to DOE on January 22, 2003 for contract DE-FG03-98ER82614 is based
20 entirely on results that were obtained by one of Samandi’s Ph.D. students, S. W. Huang,
21 and were presented in his Ph.D. thesis at University of Wollongong, Australia in 2000.

1 72. The experimental procedures, results and discussion presented in the report
2 were copied directly from Huang's thesis. Much of the plagiarized material was
3 disguised to appear as MER's work; other portions are identical to sections of the Huang
4 thesis. All the graphs, tables, micrographs presented in the report were copied from
5 Huang's thesis.

6 73. As an example, the text of the following sections of the Huang thesis
7 (column 2 below), beginning with the sentence "A Hiden-100 mass spectrometer was
8 employed . . .," appear verbatim in the sixth progress report (column 1 below):

<u>Sixth Interim Technical Report, pp. 4-9</u>	<u>Huang thesis, pp. 69-78</u>
2.1 Coating procedure	2.1 Coating procedure
2.2 Surface roughness Measurement	2.2 Surface roughness Measurement
2.3 Coating Thickness Measurement	2.3 Coating Thickness Measurement
2.4 X-ray Diffraction	2.4 X-ray Diffraction
2.5 Microhardness Measurement	2.5 Microhardness Measurement
2.6 Scratch Testing	2.6 Scratch Testing
2.7 Wear Testing	2.7 Wear Testing
2.8 Microscopic Examination	2.8 Microscopic Examination

DOE SBIR Phase II project, "The Development and Demonstration of Reliable Adherent Metallization of AlN," Contract # DE-FG03-00ER83043

4 74. The second, third, and fourth interim technical reports submitted to DOE
5 (on February 17, February 25, and September 9, 2003, respectively) for contract
6 DE-FG03-00ER83043 are fraudulent in that they are based substantially if not entirely on
7 data which were obtained outside MER by others well before the start of the project
8 funded by SBIR.

9 75. The tasks identified in the original proposal were not undertaken, and no
10 actual results were ever achieved. The first report merely proposed a future project plan,
11 which was not implemented. The experimental procedures, results and discussions in the
12 technical progress reports were copied directly from a thesis submitted by one of
13 Samandi's honors students, Matthew Ted Gudze, "Application of Ion Implantation as a
14 Precursor to Ceramic/Metal Joining" at the University of Wollongong in November 1995.

15 76. Again, the results were largely disguised by Defendant MER to make it
16 falsely appear that it had complied with the proposal which it submitted to DOE, but
17 many portions of the report are identical to passages in the Gudze thesis.

18 77. As examples, several of the figures in the second interim technical report
19 are identical to those in the Gudze thesis:

<u>Second Interim Technical Report</u>	<u>Gudze Thesis</u>
Fig. 4 (p. 8) B383	Fig. 4.5 (p. 29) B451
Fig. 5 (p. 10) B385	Fig. 4.1 (p. 25) B447

Fig. 6 (p. 11) B386	Fig. 4.3 (p. 27) B449
Fig. 7 (p. 12) B387	Fig. 4.2 (p. 26) B448
Fig. 8 (p. 13) B388	Fig. 4.4 (p. 28) B450

1

2 78. As another set of examples, the following sections of the Gudze thesis
 3 appear verbatim in the third interim technical report:

<u>Third Interim Technical Report, p. 8</u>	<u>Gudze Thesis, p. 20</u>
Conductivity Tests	3.2.4 Conductivity Tests
Water Wettability Tests	3.2.5 Water Wettability Tests

4

79. The final technical report submitted on January 16, 2006, by Defendant
 5 MER, through Defendant Withers as PI, to DOE for contract DE-FG03-00ER83043, is
 6 also fraudulent in that it reports data which were obtained outside MER by others well
 7 before the start of the project funded by SBIR, namely Samandi former students Huang
 8 and Gudze, as shown in the following table:

<u>Final Technical Report</u>	<u>Huang Thesis</u>
Page 11, Fig. 3	Page 69, Fig. 4.10
Fig. 3 (depicting deposition system at Wollongong U)	Fig. 4.10
Page 13, Fig. 5	Page 33, Fig. 3.3

Page 14, Fig. 6	Page 38, Fig. 3.8
Pages 11-13, text	Pages 28-38 text
	<u>Gudze Thesis</u>
Page 15, Table I	Page 18, Table 3.1
Page 16, Fig. 10	Page 29, Fig. 4.5
Page 17, Table II	Page 24, Table 4.1
Page 17, Fig. 11	Page 25, Fig. 4.1
Page 19, Fig. 12	Page 26, Fig. 4.2
Page 20, Fig. 13	Page 27, Fig. 4.3
Page 21, Fig. 14	Page 28, Fig. 4.4
Pages 14-22, text	Pages 24-29, text

1

2 80. Under the regulations and policies of the SBIR program, it is impermissible
 3 for an awardee to accept SBIR funds to conduct prospective research at its own facilities
 4 by its own PI and other key personnel and then to turn around and simply cut and paste
 5 existing scientific data from outside sources into SBIR technical reports that are intended
 6 to inform the funding agency of the research progress that was supposedly undertaken
 7 with its grant money.

8 81. Upon information and belief, Defendants MER, Withers and Loutfy knew
 9 at the time the above described interim and final technical reports were submitted to DOE

1 that it was fraudulent to submit plagiarized research results to SBIR Program personnel
2 and to claim such results as one's own.

3 82. Upon further information and belief, if DOE's SBIR personnel had known
4 Defendant MER submitted plagiarized results in its technical reports concerning the
5 above contracts, they would not have remitted payment to MER for them.

6 83. The Government has been economically harmed as a result of the
7 foregoing.

8 84. Defendants MER and Withers, and Loutfy, have been aware of the
9 plagiarized results in the above-described SBIR interim and final technical reports since
10 at least as early as 2008, if not sooner, and, upon information and belief, they have not
11 refunded monies awarded to MER on those contracts, but rather, have continued to
12 wrongfully retain such funds.

(c) MER Submitted Technical Reports with Duplicative Results

14 85. Defendants MER, Withers and Loutfy and Storm (as PI), submitted Phase I
15 and Phase II technical reports for Army/Missile Command contract DAAH10-03-C-0016
16 (referred to herein as “Face Gear”) and Marine Corp. contract M67854-03-C0039
17 (referred to herein as “AAAV”) in which identical results were presented in both
18 contracts together with the certification that such results had been separately obtained
19 under each of the respective contracts.

20 86. In other words, Defendants MER, Storm, Withers and Loutfy sought to
21 have DOD pay twice for the same research results. And, in fact, DOD did so.

1 87. This occurred for both Phase I and Phase II of the DOD SBIR contracts at
2 issue here.

3 88. The following table illustrates the corresponding identical reported research
4 results appearing in the Phase I final technical reports for Face Gear and AAV:

<u>Face Gear, Phase I Final Report</u>	<u>AAV, Phase I Final Report</u>
Page 4, Table 1	Page 8, Table 1
Page 5, Fig. 2	Page 7, Fig. 2
Page 6, Fig. 3	Page 9, Fig. 3
Page 7, Fig. 4	Page 10, Fig. 4
Page 8, Fig. 5	Page 10, Fig. 5
Page 9, Fig. 6	Page 11, Fig. 6
Page 10, Fig. 7	Page 11, Fig. 7
Page 10, Fig. 8	Page 12, Fig. 8
Page 17, Fig. 16	Page 13, Fig. 9
Page 18, Fig. 17	Page 13, Fig. 10

5
6 89. Additionally, there are substantial similarities in the narrative text relating
7 to these results in both Phase I final technical reports.

8 90. Defendants MER, Storm, Withers and Loutfy likewise submitted
9 duplicative Phase II results to DOD in connection with the Face Gear and AAV SBIR
10 contracts.

1 91. The following table illustrates the corresponding identical (or very similar)
2 reported results appearing in the Phase II technical reports for Face Gear and AAAV:

<u>Face Gear, Phase II Technical Reports</u> (Interim and Final)	<u>AAAV, Phase II Final Technical Report</u>
<u>15th Interim Technical Report</u>	
Fig. 2	Page 22, Fig. 20
Table I	Page 22, Table IV
<u>16th Interim Technical Report</u>	
Fig. 1	Page 8, Fig. 4
Fig. 2	Page 9, Fig. 5
<u>Final Technical Report</u>	
Page 13, Table III	Page 9, Table II (very similar, not quite identical)
Page 14, Table IV	Page 10, Table III (very similar, not quite identical)
Page 20, Fig. 15	Page 22, Fig. 20
Page 20, Table V	Page 22, Table IV

3
4 92. Additionally, there are substantial similarities in the narrative text relating
5 to these results in both final technical reports for Phase II.

1 93. Upon information and belief, Defendants MER, Storm, Withers and Loutfy
2 knew, or should have known, at the time the above technical reports were submitted to
3 DOD's SBIR program that it was impermissible to seek payment for the same results
4 under more than one SBIR contract and they also knew, or should have known, at the
5 time that it was fraudulent to misrepresent results as being obtained under one SBIR
6 contract when they were in fact obtained under another.

7 94. Upon information and belief, had DOD known that it was paying twice for
8 the same research results in two different contracts, as reflected in the technical reports
9 for both Face Gear and AAAV, it would not have paid Defendant MER for both.

10 11 (d) **MER Misrepresented its Commercialization Achievements and**
Capabilities in SBIR Proposals

12 95. In order to obtain SBIR funding, Defendant MER boasted of its
13 commercialization achievements and capabilities in every proposal it has submitted since
14 1999, if not earlier. Many of these boasts were false and misleading.

16 96. For example, among other things, Defendant MER stated in many of its
17 SBIR proposals, in sum and substance, that:

18 MER Corporation is dedicated to the commercialization of
19 nanotube/nanotechnology, fibers and composite technology developed under
20 SBIR/STTR programs. MER has demonstrated commercializing C-C composites
21 to becoming one of the largest suppliers to Europe and Japan, and metal matrix
22 composites as the largest squeeze caster of composites in the U.S. MER is the
23 world's largest producer of fullerenes/nanotubes and has recently commercialized
24 a lithium ion battery and fuel cell. (Emphasis added.)

25 97. The foregoing representations were categorically false at the time they were
26 made in Defendant MER's SBIR proposals, including, specifically, the statements that

1 MER is dedicated commercializing nanotube/nanotechnology (a form of fullerenes),
2 fibers and composite "technology developed under SBIR/STTR programs" and that MER
3 is "the world's largest producer of fullerene."

4 98. In fact, as Defendants MER, Loutfy and Withers well knew, or should have
5 known, at the time of these representations, the largest producer of fullerenes in the world
6 after in or about 2000 was Mitsubishi Corp. And, they also knew or should have known,
7 at the time that Mitsubishi used an entirely different technology for producing fullerenes
8 than the technology MER developed or attempted to develop with SBIR funding.

9 99. Additionally, from at least in or about 2001, if not earlier, to at least in or
10 about 2004, if not later, Defendant MER did not produce any substantial amount of
11 fullerenes, but instead imported from Russia most, if not all, of the fullerenes it sold, as
12 Defendants MER, Loutfy and Withers well knew or should have known at the time it
13 submitted its SBIR proposals.

14 100. All of the SBIR proposals submitted by Defendant MER after in or about
15 1999 contained the aforementioned false statements concerning fullerene and nanotube
16 commercialization, including, but not limited to the following:

- 17 a. DOE Phase I and II, DE-FG03-00ER83042, "Single wall
18 nanotubes...." PI: R.O. Loutfy.
- 19 b. DOE Phase I and II, DE-FG03-01ER83281, "Double wall
20 nanotubes...." PI: A. Moravsky.
- 21 c. NASA Phase II, NAS8-00199, "hollow carbon fiber...." PI: J. C.
22 Withers. And,

d. NASA Phase II, NAS5-02025, "nanotube balloons and aero bots...."

PI: J. C. Withers.

101. Defendant Loutfy was the person at Defendant MER who was primarily responsible for drafting and incorporating the commercialization sections of MER's SBIR proposals that included its false representations, including those relating to MER's purported commercialization of fullerenes and nanotubes.

102. Defendant Withers knew, or should have known, of such false representations, and at times certified Defendant MER's proposals containing these false representations as either the PI or company representative.

103. Upon information and belief, Defendants MER, Loutfy and Withers included the above-described misrepresentations of its commercialization history concerning fullerenes and nanotubes in MER's SBIR proposals in order to favorably influence SBIR program personnel to award grants to MER.

104. Upon information and belief, Defendant MER's representations concerning its commercialization capabilities for fullerenes and nanotubes were read by, and were material to, the agencies reviewing MER's Phase I and II SBIR applications and were relied upon by such agencies in those instances when they granted MER SBIR funding.

105. Upon further information and belief, had these agencies known the truth regarding Defendant MER's commercialization history for fullerenes they would not have awarded MER SBIR contracts, particularly where the proposed research referred or related to fullerenes or nanotubes. Additionally, upon further information and belief, if these agencies simply knew that MER had lied about its commercialization history for

1 fullerenes and nanotubes in the manner described above, they would not have awarded
2 MER any SBIR contracts.

3 106. As a result of the foregoing the Government was economically harmed.

CLAIMS (Federal False Claims Act Violations)

FIRST CAUSE OF ACTION
(31 U.S.C. § 3729(a)(1))

9 107. Samandi incorporates by reference paragraphs 1 through 106 of this
10 Complaint, as if fully set forth herein.

11 108. In connection with MER's participation in the SBIR Program, from 1999, if
12 not earlier, to the date of this Complaint, Defendants engaged in a continuous practice of
13 knowingly presenting, and causing to be presented, to an officer and employee of the
14 United States Government, false and fraudulent claims for payment and approval.

15 109. Such misrepresentations were intended by Defendants to be relied on, and
16 they were in fact relied on, by SBIR Program personnel and were material to their
17 decisions regarding the SBIR contracts at issue in this action, including the decision to
18 remit payments to MER on those that were successfully awarded to it.

19 110. The Government of the United States of America made payments to MER
20 upon its false, fictitious, or fraudulent claims and was therefore damaged.

SECOND CAUSE OF ACTION
(31 U.S.C. § 3729(a)(2))

4 111. Samandi incorporates by reference paragraphs 1 through 106 of this
5 Complaint, as if fully set forth herein.

6 112. In connection with MER's participation in the SBIR Program, from 1999, if
7 not earlier, to the date of this Complaint, Defendants engaged in a continuous practice of
8 knowingly making, using, and causing to be made and used, false records and statements
9 to get false and fraudulent claims paid and approved by the Government.

10 113. Such misrepresentations were intended by Defendants to be relied on, and
11 they were in fact relied on, by SBIR Program personnel and were material to their
12 decisions regarding the SBIR contracts at issue in this action, including the decision to
13 remit payments to MER on those that were successfully awarded to it.

14 114. The Government of the United States of America made payments to MER
15 upon its false, fictitious, or fraudulent claims and was therefore damaged.

PRAYER FOR RELIEF

17 WHEREFORE, Samandi, on behalf of himself individually, and acting on behalf,
18 and in the name, of the Government of the United States, respectively, demands and prays
19 that judgment be entered against the Defendants as follows:

20 A. That Defendants cease and desist from violating the False Claims Act, 31
21 U.S.C. § 3729 *et seq.*;

22 B. On the First and Second Causes of Action under False Claims Provisions of
23 the False Claims Act, 31 U.S.C. § 3729(a), against Defendants in the amount of three

1 times the amount of damages the United States has sustained because of Defendants'
2 actions, which amount is to be determined at trial or by the court, plus a civil penalty of
3 between \$5,500 and \$11,000.00 for each act in violation of the False Claims Act, as
4 provided by § 3729(a), with interest;

5 C. As further relief under the First and Second Causes of Action, awarding
6 Samandi an amount under the Qui Tam Provisions of the False Claims Act, 31 U.S.C. §
7 3730(d), for bringing this action, namely, between 15 and 25 percent of the proceeds of
8 the action or settlement of the claim if the Government intervenes in the matter (or
9 pursues its claim through any alternate remedy available to the Government, 31 U.S.C. §
10 3730(c)(5)), or, alternatively, between 25 and 30 percent of the proceeds of the action or
11 settlement of the claim, if the Government declines to intervene;

12 D. Further, awarding Samandi all reasonable expenses that were necessarily
13 incurred in prosecuting this action, plus all reasonable attorneys' fees and costs, as
14 provided by 31 U.S.C. § 3730(d);

15 E. Further, awarding Samandi prejudgment interest; and

16 F. Further, awarding the United States and Samandi such other relief in law or
17 equity as this Court deems just and proper.

18

19

DEMAND FOR JURY TRIAL

2 Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Relator hereby
3 demands trial by jury.

4 DATED this 6th day of August, 2009

LAW OFFICE OF TIMOTHY J. McINNIS

/s/

By _____
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